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ABSTRACT

Project FIRST (Field-Based Integrated Regular and Special Teacher Training) is an Oklahoma program that funds teacher training on the use of technology and media to adapt instruction for disabled students in the regular classroom. The program provided inservice training to regular teachers in rural Oklahoma school districts and preservice training to undergraduates working toward certification in special education. Participants developed knowledge and skills in using technology and media to modify classroom organization, student response variables, instructional delivery, materials, curriculum, and assessment for students with disabilities. Activities and projects were completed collaboratively by district teams consisting of a regular educator, a special education preservice teacher paired with the regular teacher for a year, and a university faculty member certified in special education. Each team was loaned technology and media hardware and software for classroom use for 1 year. Devices included computer with CD-ROM, laptop computer with projection system, video laser disk player, audiotapes and tape player, videotapes and tape player, overhead projector and transparencies, and augmentative communication devices. Projects included a team portfolio documenting mastery of competencies, a multimedia presentation of sample classroom adaptations, and a parent perspectives conference to demonstrate skills in relating to parents. Participants increased their knowledge and classroom use of technology and continued to integrate technology in their classrooms at 6-month followup. (SV)

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ED 406 124

INTEGRATING TECHNOLOGY AND MEDIA INTO REGULAR CLASSROOMS TO FACILITATE INCLUSION: PRESERVICE/INSERVICE TRAINING OF RURAL EDUCATORS

A clear preference for educating students with disabilities in the regular classroom has been a requirement of the Individuals with Disabilities Education Act (IDEA) since its inception as the Education for all Handicapped Children Act (EHA) in 1975. For years it seemed that the burden fell on students with disabilities to prove that they could adapt to the regular class environment. More recently, it appears that the burden of making adaptations in the regular classroom has shifted from the children with disabilities to their local school district. Technology and media hold great potential for providing a means of making the adaptations and modifications so that students with disabilities can be fully integrated into regular classrooms. This has created a need for all teachers to become skilled in the integration of technology and media into regular classrooms, which in turn has resulted in an increased need for training at the preservice and inservice levels (Northrup & Little, 1996).

Both preservice and inservice teacher training has often failed to prepare teachers to integrate technology into classroom teaching practices (Northrup & Little, 1996; Roblyer, 1994). Lack of training at the preservice level exacerbates the obstacles faced by teachers in rural schools as they attempt to use technology in their classrooms. Once a teacher is employed in a rural school district, the extreme isolation of many rural schools restricts opportunities to participate in training at the inservice level. Many rural school districts are several hours away from a university, therefore, higher education coursework is difficult to obtain. In addition, rural school districts often have limited funds to support travel to conferences and workshops (Berkeley & Ludlow, 1991). Often, even when teachers do manage to attend university classes, workshops, or conferences to receive training in technology, they find that once they return to their classrooms, there are limited opportunities to practice skills learned because the available technology is outdated. In the rare instances in which technology is actually procurable, teachers find technical support is not available in remote rural areas when they experience trouble with the equipment or software.

This paper describes a program to assuage the problem that many rural schools face: inadequately trained teachers who are ill-prepared to integrate technology into instruction and as a result, are unable to effectively make

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adaptations and modifications for students with disabilities in regular classroom placements. The program was developed for undergraduate students seeking certification in special education and for regular educators employed in rural school districts. The purpose of the project was to develop regular and special educators' competencies in providing quality education to students with disabilities in regular classroom placements within rural school districts.This paper will focus on the specific activities related to training in the integration of technology and media into classroom instruction to facilitate inclusion of students with disabilities within regular classroom settings.

Project F.I.R.S.T. Training

Project F.I.R.S.T. (Field-based Integrated Regular and Special Teacher) Training was a program funded through a state of Oklahoma competitive grant using IDEA-B Discretionary Funds. The funds provided preservice/inservice training in how to collaboratively develop adaptations and modifications for students with disabilities within regular classrooms using technology and media. The inservice training was provided to regular educators currently employed in rural school districts. Teachers were selected through an application process. To be eligible, applicants had to be certified as regular educators and currently employed as regular educators. Only those who had not previously taken undergraduate or graduate work towards certification in special education were selected. The teachers received graduate credit towards a master's degree in special education, however, they were asked to make a commitment to educate students with disabilities within a regular classroom setting for at least three years following the completion of the project. Preservice training was provided to undergraduate students received undergraduate credit for courses which counted towards certification in special education.

Competencies

Participants were provided with opportunities to develop knowledge and skills in adaptations and modifications using technology and media. The knowledge base competencies covered the following topics :

1. Options for adapting classroom organization using technology and media
2. Techniques for modifying student response variables and requirements using technology and media
3 Techniques for applying behavior principles to master cognitive tasks
4. Methods of modifying instructional delivery using technology and media
5. Methods of using technology and media to adapt materials

6. Curriculum alternatives and supplements for students with disabilities that utilize technology and media
7. Methods of using technology and media to adapt or modify tests, exams, or other evaluations of students with disabilities.

Throughout the project, students had opportunities to develop and demonstrate skills in adaptations and modifications including the following:

1. Selecting, adapting, and using strategies and materials according to learner characteristics
2. Developing and/or selecting assessment measures sensitive to cultural differences
3. Choosing and using appropriate technologies to accomplish instructional objectives
4. Teaching students strategies to promote success in the regular classroom
5. Collaboratively developing IEPS and lesson plans.
6. Communicating and consulting with students, parents, teachers, and other personnel
7. Fostering respectful and beneficial relationships between families and others
8. Encouraging and assisting families to become active participants in the educational team
9. Collaboratively planning and conducting a conference for parents and primary caregivers.

Activities and Projects

Activities and projects were completed by each team collaboratively. The teams consisted of the regular classroom teacher employed by the district, a special education preservice teacher paired with the classroom teacher for the entire year, and a university faculty member certified in special education. Together, team members collaborated to integrate technology and media into the classroom. Each team was loaned technology and media hardware and software to use in the classroom for the year. Examples of devices included computers with CD-ROM, lap top computer with projection system (VGA converter or LCD panel) video laser disk player with computer and software to develop instruction using the laser disks, audio tapes and audio tape players, video tapes and video tape player, overhead projector and transparent manipulatives and materials, and augmentative communication devices. One day a month, the project director provided on-site demonstrations of the devices and demonstrations of the integration of technology and media into classroom instruction in order to meet academic goals and objectives.

The teams were taught to select adaptations and modifications from an array of possibilities. For example, technology and media were used to modify organization of the classroom, methods of delivering instruction, instructional materials, and student outputs or response modes. The adaptations and modifications were unique to the grade levels taught, the needs of the students with disabilities within each classroom, and the interests of preferences of each team member.

Portfolio. Throughout Project F.I.R.S.T. Training, participating teams documented mastery of competency skills by collecting artifacts and products in a portfolio. The portfolio included photographs, lessons plans, examples of student work, and other examples of skills that had been mastered. The portfolio was used to assess teams and to evaluate the project. Each portfolio included:

- Photographs of adapted materials and strategies using a variety of technology and media (from no-tech to high-tech) accompanied by a brief typed description of the adaptation and purpose
- Examples of modified worksheets
- Examples (screenprint) of software
- Video tape of students using adaptations and modifications
- Examples of audio tapes used to adapt materials
- Photographs of students employing strategies for success
  Written directions accompanied by audio or video tape
- Examples of student's products and artifacts developed using technology and media

Multimedia Presentation. In addition to the portfolio, each team developed and presented a multimedia demonstration of sample modifications and adaptations for each of the types of adaptations learned. The teams were required to make the presentation using a computer and a projection system (most typically an LCD panel and overhead projector). Teams were encouraged to integrate other media into their presentation such as slides or video tape, transparencies, and handouts. The types of adaptations and modifications were grouped into categories using the mnemonic device known as *ORBITSPACE* . At least one example from each of the following areas of *ORBITSPACE* was provided:

O = Organization of group/classroom
R = Response variables and requirements
B = Behavior management and learning principles
I = Instructional delivery
T = Technology and media
S = Specialized strategies
P = Pacing

A = Adapated and modified materials
C = Curriculum alternatives
E = Evaluation modifications

Parent Perspectives Conference. In order to demonstrate the skills related to relationships with parents, the participants worked together to plan, develop, and conduct a Parent Perspectives Conference. Each team was given a specific task to complete in order to conduct the conference. These tasks included selecting and notifying speakers, determining an agenda, procuring a facility, disseminating information region-wide, obtaining "goody-bag" items from community agencies and business, prepare and serve refreshments, and acknowledging speakers and supporters. Some project participants who were parents of students with disabilities also served as panelists themselves. The teams used technology and media to carry out many of these activities, such as disseminate information, make presentations, and acknowledge speakers and supporters.

Benefits of the Project

Several benefits of the project were reported by the project participants. First, all teachers reported that the opportunity to receive graduate training and inservice directly in their own classrooms was a immense benefit. Second, the participants reported that the field-based demonstrations and loan of the technology increased their knowledge of technology. The majority of the project participants reported that they were familiar with computers prior to the project, however, only one participant was familiar with video disks and no participants had used video disks in their classroom. None of the participants were familiar with presentation software and were unaware of how this software could be used to present information to students. In fact, none of the participants had used technology in whole-class instruction, large group instruction, or small-group instruction. The project director demonstrated the use of this technology during lecture to the participants as well as during instruction within the regular classrooms. A third benefit of the project was that participants reported an increase in the use of technology in the classroom. Prior to the project, only one participant used computers to deliver instruction and integrated computers into classroom activities. During the project, participants were required to integrate technology on a daily basis. Participants reported that the opportunity to observe the project director use computers to meet academic goals and objectives completely changed their perceptions of how technology can be integrated into the classroom. A follow-up six months after the project completion date indicated that participants continued to integrate technology in their classroom and use computers to deliver instruction, modify student responses, and to meet academic goals. Over fifty percent of the project's participating teachers have

written grants to obtain computers and word processors. The grants have included computers for use by both the teachers and their students. One grant has already been funded. Status of the remaining grant applications is pending.

Conclusion

The integration of technology and media into regular classroom instruction has tremendous potential to facilitate the successful inclusion of students with disabilities into regular classroom settings. Field-based teacher training can make a significant contribution to the integration of technology into classrooms. By providing modeling and demonstrations within the classroom followed by guided practice, participants will be able to receive technical assistance with the technology as well as assistance with adaptation and modification strategies being practiced. When teachers not only are able to see the impact technology can make, but also have actual technological devices for use in classrooms, they can independently practice what they have been taught. Repeated on-site visits by university faculty provides opportunities for feedback once skills have been acquired and fluency has been developed and provides sufficient time for skills to be maintained and generalized.

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